In the Claims

1-24 (canceled).

25 (new). An isolated or purified polynucleotide sequence encoding a multimeric polypeptide construct comprising: i) (SEQ ID NO: 1)$_x$; ii) (SEQ ID NO: 4)$_x$; iii) [L-(SEQ ID NO:1)]$_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO:1 and x is an integer from 2 to 100; iv) [L-(SEQ ID NO:4)]$_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO: 4 and x is an integer from 2 to 100; or v) [(SEQ ID NO: 1-(L)$_c$)$_a$-L$_z$-(SEQ ID NO: 4-(L)$_d$)$_b$]$_x$, wherein a and b can be the same, or different, and are an integer from 1 to 50; x is an integer from 2 to 100; L is a linker element; c and d can be the same, or different, and are 0, 1, 2, 3, 4, 5, 6, 7, or 8; and z is 0, 1, 2, 3, 4, 5, 6, 7, or 8.

26 (new). The isolated or purified polynucleotide sequence according to claim 25, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising (SEQ ID NO: 1)$_x$ and x is an integer from 2 to 100.

27 (new). The isolated or purified polynucleotide sequence according to claim 25, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising (SEQ ID NO: 4)$_x$ and x is an integer from 2 to 100.

28 (new). The isolated or purified polynucleotide sequence according to claim 25, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising [L-(SEQ ID NO:1)]$_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO:1 and x is an integer from 2 to 100.

29 (new). The isolated or purified polynucleotide sequence according to claim 25, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising [L-(SEQ ID NO:4)]$_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO: 4 and x is an integer from 2 to 100.

30 (new). The isolated or purified polynucleotide sequence according to claim 25, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising [(SEQ ID NO: 1-$(L)_c)_a$-L_z-(SEQ ID NO: 4-$(L)_d)_b]_x$, wherein a and b can be the same, or different, and are an integer from 1 to 50; x is an integer from 2 to 100; L is a linker element; c and d can be the same, or different, and are 0, 1, 2, 3, 4, 5, 6, 7, or 8; and z is 0, 1, 2, 3, 4, 5, 6, 7, or 8.

31 (new). The isolated or purified polynucleotide sequence according to claim 28, wherein L is a peptide linker selected from $(Ser\text{-}Gly\text{-}Gly\text{-}Gly\text{-}Gly)_y$ or $(Ser\text{-}Gly\text{-}Gly\text{-}Gly\text{-}Gly)_y$-Ser-Pro) and y is an integer from 1 to 8.

32 (new). The isolated or purified polynucleotide sequence according to claim 28, wherein L is a cleavable linker.

33 (new). The isolated or purified polynucleotide sequence according to claim 29, wherein L is a peptide linker selected from $(Ser\text{-}Gly\text{-}Gly\text{-}Gly\text{-}Gly)_y$ or $(Ser\text{-}Gly\text{-}Gly\text{-}Gly\text{-}Gly)_y$-Ser-Pro) and y is an integer from 1 to 8.

34 (new). The isolated or purified polynucleotide sequence according to claim 29, wherein L is a cleavable linker.

35 (new). The isolated or purified polynucleotide sequence according to claim 30, wherein L is a peptide linker selected from $(Ser\text{-}Gly\text{-}Gly\text{-}Gly\text{-}Gly)_y$ or $(Ser\text{-}Gly\text{-}Gly\text{-}Gly\text{-}Gly)_y$-Ser-Pro) and y is an integer from 1 to 8.

36 (new). The isolated or purified polynucleotide sequence according to claim 30, wherein L is a cleavable linker.

37 (new). An isolated host cell comprising a polynucleotide sequence encoding:

i) a polypeptide sequence consisting of: SEQ ID NO: 3 fused to a heterologous sequence; or SEQ ID NO: 4;

ii) $(\text{SEQ ID NO: 1})_x$;

iii) $(\text{SEQ ID NO: 4})_x$;

iv) $[\text{L-(SEQ ID NO:1)}]_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO:1 and x is an integer from 2 to 100;

v) $[\text{L-(SEQ ID NO:4)}]_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO: 4 and x is an integer from 2 to 100; or

vi) $[(\text{SEQ ID NO: 1-(L)}_c)_a\text{-L}_z\text{-(SEQ ID NO: 4-(L)}_d)_b]_x$, wherein a and b can be the same, or different, and are an integer from 1 to 50; x is an integer from 2 to 100; L is a linker element; c and d can be the same, or different, and are 0, 1, 2, 3, 4, 5, 6, 7, or 8; and z is 0, 1, 2, 3, 4, 5, 6, 7, or 8.

38 (new). The isolated host cell according to claim 37, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising $(\text{SEQ ID NO: 1})_x$ and x is an integer from 2 to 100.

39 (new). The isolated host cell according to claim 37, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising $(\text{SEQ ID NO: 4})_x$ and x is an integer from 2 to 100.

40 (new). The isolated host cell according to claim 37, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising $[\text{L-(SEQ ID NO:1)}]_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO:1 and x is an integer from 2 to 100.

41 (new). The isolated host cell according to claim 37, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising $[L\text{-(SEQ ID NO:4)}]_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO: 4 and x is an integer from 2 to 100.

42 (new). The isolated host cell according to claim 37, wherein said polynucleotide sequence encodes a multimeric polypeptide construct comprising $[(\text{SEQ ID NO: 1-}(L)_c)_a\text{-}L_z\text{-(SEQ ID NO: 4-}(L)_d)_b]_x$, wherein a and b can be the same, or different, and are an integer from 1 to 50; x is an integer from 2 to 100; L is a linker element; c and d can be the same, or different, and are 0, 1, 2, 3, 4, 5, 6, 7, or 8; and z is 0, 1, 2, 3, 4, 5, 6, 7, or 8.

43 (new). The isolated host cell according to claim 40, wherein L is a peptide linker selected from $(\text{Ser-Gly-Gly-Gly-Gly})_y$ or $(\text{Ser-Gly-Gly-Gly-Gly})_y$-Ser-Pro) and y is an integer from 1 to 8.

44 (new). The isolated host cell according to claim 40, wherein L is a cleavable linker.

45 (new). The isolated host cell according to claim 41, wherein L is a peptide linker selected from $(\text{Ser-Gly-Gly-Gly-Gly})_y$ or $(\text{Ser-Gly-Gly-Gly-Gly})_y$-Ser-Pro) and y is an integer from 1 to 8.

46 (new). The isolated host cell according to claim 41, wherein L is a cleavable linker.

47 (new). The isolated host cell according to claim 42, wherein L is a peptide linker selected from $(\text{Ser-Gly-Gly-Gly-Gly})_y$ or $(\text{Ser-Gly-Gly-Gly-Gly})_y$-Ser-Pro) and y is an integer from 1 to 8.

48 (new). The isolated host cell according to claim 42, wherein L is a cleavable linker.

49 (new). The isolated host cell according to claim 37, wherein said polynucleotide encodes a polypeptide consisting of SEQ ID NO: 3 fused to a heterologous sequence.

50 (new). The isolated host cell according to claim 37, wherein said polynucleotide encodes a polypeptide consisting of SEQ ID NO: 4.

51 (new). A vector comprising the polynucleotide according to claim 25.

52 (new). A transformed plant comprising a polynucleotide encoding:

i) a polypeptide sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence or SEQ ID NO: 4;

ii) $(\text{SEQ ID NO: 1})_x$, wherein x is an integer from 2 to 100;

iii) $(\text{SEQ ID NO: 4})_x$, wherein x is an integer from 2 to 100;

iv) $[\text{L-(SEQ ID NO:1)}]_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO:1 and x is an integer from 2 to 100;

v) $[\text{L-(SEQ ID NO:4)}]_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO: 4 and x is an integer from 2 to 100; or

vi) $[(\text{SEQ ID NO: 1-}(L)_c)_a\text{-}L_z\text{-(SEQ ID NO: 4-}(L)_d)_b]_x$, wherein a and b can be the same, or different, and are an integer from 1 to 50; x is an integer from 2 to 100; L is a linker element; c and d can be the same, or different, and are 0, 1, 2, 3, 4, 5, 6, 7, or 8; and z is 0, 1, 2, 3, 4, 5, 6, 7, or 8.

53 (new). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence.

54 (new). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence that chelates metal ions.

55 (new). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide sequence consisting of SEQ ID NO: 4.

56 (new). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide comprising (SEQ ID NO: 1)$_x$, wherein x is an integer from 2 to 100.

57 (new). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide comprising (SEQ ID NO: 4)$_x$, wherein x is an integer from 2 to 100.

58 (new). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide comprising [L-(SEQ ID NO:1)]$_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO:1 and x is an integer from 2 to 100.

59 (new). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide comprising [L-(SEQ ID NO:4)]$_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO: 4 and x is an integer from 2 to 100.

60 (new). The transformed plant according to claim 52, wherein said transformed plant comprises a polynucleotide encoding a polypeptide comprising [(SEQ ID NO: 1-(L)$_c$)$_a$-L$_z$-(SEQ ID NO: 4-(L)$_d$)$_b$]$_x$, wherein a and b can be the same, or different, and are an integer from 1 to 50; x is an integer from 2 to 100; L is a linker element; c and d can be the same, or different, and are 0, 1, 2, 3, 4, 5, 6, 7, or 8; and z is 0, 1, 2, 3, 4, 5, 6, 7, or 8.

61 (new). A method for bioremediation or phytoremediation of sites contaminated with metals comprising: a) identifying a site suitable for bioremediation and containing contaminating heavy metals; b) planting transgenic plants according to claim 52 at said site; growing said transgenic plants at said site under conditions that allow for the accumulation of metals that contaminate said site; and harvesting said transgenic plants to remove the metal contaminants from the site.

62 (new). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence.

63 (new). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide sequence consisting of SEQ ID NO: 3 fused to a heterologous sequence that chelates metal ions.

64 (new). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide sequence consisting of SEQ ID NO: 4.

65 (new). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide comprising $(\text{SEQ ID NO: 1})_x$, wherein x is an integer from 2 to 100.

66 (new). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide comprising $(\text{SEQ ID NO: 4})_x$, wherein x is an integer from 2 to 100.

67 (new). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide comprising $[\text{L-(SEQ ID NO:1)}]_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO:1 and x is an integer from 2 to 100.

68 (new). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide comprising $[L\text{-(SEQ ID NO:4)}]_x$, wherein L is a linker element joined to the polypeptide of SEQ ID NO: 4 and x is an integer from 2 to 100.

69 (new). The method according to claim 61, wherein said transgenic plant comprises a polynucleotide encoding a polypeptide comprising $[(\text{SEQ ID NO: 1-}(L)_c)_a\text{-}L_z\text{-(SEQ ID NO: 4-}(L)_d)_b]_x$, wherein a and b can be the same, or different, and are an integer from 1 to 50; x is an integer from 2 to 100; L is a linker element; c and d can be the same, or different, and are 0, 1, 2, 3, 4, 5, 6, 7, or 8; and z is 0, 1, 2, 3, 4, 5, 6, 7, or 8.

70 (new). The method according to claim 67, wherein L is a peptide linker selected from $(\text{Ser-Gly-Gly-Gly-Gly})_y$ or $(\text{Ser-Gly-Gly-Gly-Gly})_y$-Ser-Pro) and y is an integer from 1 to 8.

71 (new). The method according to claim 67, wherein L is a cleavable linker.

72 (new). The method according to claim 68, wherein L is a peptide linker selected from $(\text{Ser-Gly-Gly-Gly-Gly})_y$ or $(\text{Ser-Gly-Gly-Gly-Gly})_y$-Ser-Pro) and y is an integer from 1 to 8.

73 (new). The method according to claim 68, wherein L is a cleavable linker.

74 (new). The method according to claim 69, wherein L is a peptide linker selected from $(\text{Ser-Gly-Gly-Gly-Gly})_y$ or $(\text{Ser-Gly-Gly-Gly-Gly})_y$-Ser-Pro) and y is an integer from 1 to 8.

75 (new). The method according to claim 69, wherein L is a cleavable linker.

76 (new). A method of targeting polypeptides to the cell wall of a plant cell comprising transforming a plant cell with a genetic construct encoding a polypeptide comprising SEQ ID NO: 1 or 3 fused to a heterologous sequence and growing said cell under conditions that allow for the

expression of the genetic construct and the translocation of the expressed polypeptide to the cell wall of said cell.